

UK-Japan Stochastic Analysis School

JSPS Core-to-Core programme

1-5 September 2014

Organisers: A. Atsuji, K. D. Elworthy, Xue-Mei Li and H. Matsumoto

PROGRAMME

Monday 1st September (All Lectures in Room MS.02)

- 09:30 Registration in Room B1.37 and Coffee in the Mathematics Institute Common Room
10:30 **H. Kunita** (Kyushu) *Stochastic Flows and Adjoint Processes*
11:30 **H. Osada** (Kyushu University) *Infinite-dimensional Stochastic Differential Equations Arising From Random Matrix Theory I*
12:30 Lunch in the Mathematics Institute Common Room
14:00 **Tom Cass** (Imperial) *Constrained Rough Paths*
14:30 **Horatio Boedihardjo** (Oxford) *Iterated Integrals of a Rough Path: Uniqueness*
15:00 Tea in the Mathematics Institute Common Room
15:45 **Seiichiro Kusuoka** (Kyoto) *Hölder and Lipschitz Continuity of the Solutions to Parabolic Equations of Non-divergence Type*
16:15 **Martin Hairer** (Warwick) *Regularity Structures I*
17:45 Welcome reception and celebration in the Mathematics Institute Common Room
19:00 Dinner in the Mathematics Institute Common Room

Tuesday 2nd September (All Lectures in Room MS.02)

- 09:30 **Kazuhiro Kuwae** (Kumamoto) *Gaugeability and Conditional Gaugeability for Generalized Feynman-Kac Functionals*
10:00 **H. Zhou** (Loughborough) *Random Periodic Solutions*
10:30 Coffee in the Mathematics Institute Common Room
11:15 **Tomoyuki Shirai** (Kyushu) *Absolute Continuity and Singularity for the Ginibre Point Process and its Palm Measures*
11:45 **H. Osada** (Kyushu University) *Infinite-dimensional Stochastic Differential Equations Arising From Random Matrix Theory II*
12:45 Lunch in the Mathematics Institute Common Room
13:40 **Posters**
14:00 **Yue Wu** (Loughborough) *Random Periodic Solutions of SDEs With Linear Multiplicative Noise*
James Thompson (Warwick) *An Asymptotic Relation for the Integrated Heat Kernel*
Nobuaki Naganuma (Tohoku) *Exact Convergence Rate of the Wong-Zakai Approximation to RDEs Driven by Gaussian Rough Paths*
14:45 **Wilfrid Kendall** (Warwick) *Shy Couplings, CAT(0) Spaces, and the Lion and Man*
15:15 Tea in the Mathematics Institute Common Room
15:45 **Kazumasa Kuwada** (Tokyo Institute of Technology) *On the Speed in Transportation Costs of Heat Distributions*
16:15 **Thierry Levy** (Paris 6) *Two Dimensional Yang-Mills Theory: A Case Study in Non-perturbative Gauge Theory I*
17:30 Wine and Nibbles in the Mathematics Institute Common Room

Wednesday 3rd September (All Lectures in Room MS.01)

- 09:30 **Martin Hairer** (Warwick) *Regularity Structures II*
10:30 Coffee in the Mathematics Institute Common Room
11:00 **Kiyotaki Suzuki** (Osaka) *An SDE Approach to Leafwise Diffusions on Foliated Spaces and its Applications*
11:15 **Tusheng Zhang** (Manchester University) *Smoothness of Solutions of SDEs With Singular Coefficients*
11:45 **Thierry Levy** (Paris 6) *Two Dimensional Yang-Mills Theory: A Case Study in Non-perturbative Gauge Theory II*

cont.



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PROGRAMME (cont.)

12:45 Lunch in the Mathematics Institute Common Room

Free Afternoon: 17:30 Wine and Nibbles in the Mathematics Institute Common Room

18:30 for 19:00 Dinner at The Red Lion, Hunningham

Thursday 4th September (All Lectures in Room MS.01)

09:30 **D. Crisan** (Imperial) *Kusuoka-Stroock Gradient Bounds for the Solution of the Filtering Equation*

10:00 **Michela Ottobre** (Imperial) *Diffusion Limit for Random Walk Metropolis Algorithm out of Stationarity*

10:30 Coffee in the Mathematics Institute Common Room

11:15 **Setsuo Taniguchi** (Kyushu University) *Diffusion Processes on CR-manifolds*

11:45 **H. Osada** (Kyushu University) *Infinite-dimensional Stochastic Differential Equations Arising From Random Matrix Theory III*

12:45 Lunch in the Mathematics Institute Common Room

13:40 **Posters**

14:00 **Maria Veretennikova** (Warwick) *Controlled Fractional Dynamics*

Christian Fonseca-Mora (Sheffield) *Stochastic Partial Differential Equations with Lévy Noise in Duals of Nuclear Spaces*

Carina Geldhauser (Bonn) *Existence of Solutions to an SPDE with Longrange Interactions*

14:45 **Yuzuru Inahama** (Nagoya) *Short Time Kernel Asymptotics for Rough Differential Equation Driven by Fractional Brownian motion*

15:15 Tea in the Mathematics Institute Common Room

16:00 **Martin Hairer** (Warwick) *Regularity Structures III*

17:00 Wine and nibbles in the Mathematics Institute Common Room

Friday 5th September (All Lectures in Room MS.01)

09:30 **Takafumi Amaba** (Ritsumeikan University, Shiga) *An Integration by Parts on Space of Loops*

10:00 **Yuxin Yang** (Imperial) *The Clark-Ocone Approach to Hodge Theory by Examples*

10:30 Coffee in the Mathematics Institute Common Room

11:15 **Ryoichi Suzuki** (Keio) *Explicit Representations of Locally Risk-minimizing Hedging Strategy for Lévy Markets*

11:30 **Hiroshi Kawabi** (Okayama University) *Weak Convergence of Laws of Nonsymmetric Random Walks on Crystal Lattices*

12:00 **Thierry Levy** (Paris 6) *Two Dimensional Yang-Mills Theory: A Case Study in Non-perturbative Gauge Theory III*

13:00 Lunch in the Mathematics Institute Common Room

14:00 **David Applebaum** (Sheffield) *Stationary Random Fields on Unitary Duals of Compact Groups*

14:30 **Naotaka Kajino** (Kobe University) *Continuity and Estimates of the Transition Density of the Liouville Brownian Motion*

15:00 Tea in the Mathematics Institute Common Room

15:45 **Neils Jacob** (Swansea) *Transition Functions of Levy Processes and Geometry*

16:15 **Masatoshi Fukushima** (Osaka) *Stochastic Komatu-Loewner Evolutions and Brownian Motion With Darning*

POSTERS (in the Mathematics institute Common Room)

1. **Lewis Bray and James Harris** (Swansea) *Transition Densities of Levy Processes and Geometry*

2. **Oxana Manita** (Moscow) *Well-posedness of the Cauchy Problem for Nonlinear Kolmogorov Equations*

3. **Eamon McMurray** (Imperial) *Smoothing Properties of McKean-Vlasov SDEs via Malliavin Calculus*

4. **Kenneth Uda** (Loughborough) *Existence of Random Periodic Curves*

5. **Xince Wang** (Loughborough) *Probabilistic Representation of Weak Solutions of Quasilinear Parabolic Partial Differential Equations*



For further information on events at the Mathematics Institute, see: go.warwick.ac.uk/mathsevents

or contact: **Mathematics Research Centre, Zeeman Building, University of Warwick, Coventry CV4 7AL, UK**

E-mail: mrc@maths.warwick.ac.uk Phone: +44(0)24 7652 8317 Fax: +44(0)24 7652 3548